

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1-38. (previously canceled)
39. (currently amended) ~~A~~ An isolated cell, which is either an *E. coli* LacZ<sup>-</sup> or a yeast, that produces a glycoconjugate of interest in the absence of an exogenously supplied nucleotide triphosphate, the cell comprising heterologous genes encoding one or more sugar nucleotide regenerating enzyme and one or more glycosyltransferase.
40. (canceled)
41. (canceled)
42. (canceled)
43. (currently amended) The isolated cell of claim-~~42~~ 39, wherein the isolated cell is *E. coli* is LacZ<sup>-</sup>.
44. (canceled)
45. (currently amended) The isolated cell of claim-~~44~~ 39, wherein the isolated ~~eukaryotic~~ cell is a yeast.
46. (currently amended) The isolated cell of claim 39, wherein at least one of the heterologous genes is integrated into the genome of the cell.
47. (currently amended) The isolated cell of claim 39, wherein the heterologous genes are encoded within one or more plasmids.

48. (currently amended) The isolated cell of claim 47, wherein the heterologous genes are encoded within one plasmid.
49. (canceled)
- 50-51. (previously canceled)
52. (currently amended) The isolated cell of claim 39, wherein the one or more sugar nucleotide regenerating enzyme is selected from the group consisting of galactokinase, galactose-1-phosphate uridylyltransferase, glucose-1-phosphate uridylyltransferase, pyruvate kinase, nucleotide diphosphate kinase, polyphosphate kinase, acetate kinase, pyruvate oxidase, pyrophosphatase, phosphoglucomutase, N-acetylglucosamine permease, acetylglucosamine-phosphate mutase, N-acetylglucosamine-1-phosphate uridylyltransferase, N-acetylglucosamine kinase, pyrophosphorylase, uridine 5'-diphosphoglucouronic acid 6-dehydrogenase, N-acetylneuraminate lyase, sialic acid aldolase, cytosine 5'-monophosphate kinase, cytosine 5'-monophosphate-N-acetylneuraminic acid synthetase,  $\alpha$ 1,3-mannosyltransferase, guanosine 5'-diphosphomannose:Dol-PP-N-acetylglucosamine  $\beta$ -mannosyltransferase, sucrose ~~synthase~~ synthetase, mannose-1-phosphate guanylyltransferase, guanosine 5'-diphosphate-mannose pyrophosphorylase, a phosphomannomutase, uridine 5'-diphosphate-galactose 4-epimerase, uridine 5'-diphosphate-glucose 4-epimerase, guanosine 5'-diphosphate-mannose pyrophosphorylase, guanosine 5'-diphosphate-D-mannose 4,6-dehydratase, and guanosine 5'-diphosphate-L-fucose synthetase.
53. (currently amended) The isolated cell of claim 39 comprising genes encoding galactokinase, galactose-1-phosphate uridylyltransferase, and glucose-1-phosphate uridylyltransferase.
54. (currently amended) The isolated cell of claim 39 comprising a gene encoding nucleotide diphosphate kinase.
55. (currently amended) The isolated cell of claim 53 comprising a gene encoding polyphosphate kinase.

56. (currently amended) The isolated cell of claim 53 comprising a gene encoding pyruvate kinase.
57. (currently amended) The isolated cell of claim 53 comprising genes encoding pyruvate oxidase, nucleotide diphosphate kinase, and pyrophosphatase.
58. (currently amended) The isolated cell of claim 39 comprising a gene encoding sucrose synthetase.
59. (currently amended) The isolated cell of claim 58 further comprising a gene encoding uridine 5'-diphosphate-galactose 4-epimerase or uridine 5'-diphosphate-glucose 4-epimerase.
60. (currently amended) The isolated cell of claim 58 further comprising a gene encoding glucosyltransferase.
61. (currently amended) The isolated cell of claim 58 further comprising genes encoding uridine 5'-diphosphoglucouronic acid 6-dehydrogenase and a glucuronyltransferase.
62. (currently amended) The isolated cell of claim 39, wherein the one or more glycosyltransferase(s) is selected from the group consisting of a galactosyltransferase, a glucosyltransferase, a N-acetylglucosaminyl transferase, an N-acetylgalactosaminyl transferase, a glucuronyltransferase, a sialyltransferase, a mannosyltransferase, and a fucosyltransferase.
63. (currently amended) The isolated cell of claim 62 wherein the galactosyltransferase is selected from the group consisting of  $\alpha$ 1,3 galactosyltransferase,  $\beta$ 1,4 galactosyltransferase, and  $\alpha$ 1,4 galactosyltransferase.
64. (currently amended) The isolated cell of claim 62, wherein the glycosyltransferase is a glucosyltransferase.
65. (currently amended) The isolated cell of claim 62, wherein the glycosyltransferase is a N-acetylglucosaminyl transferase.

66. (currently amended) The isolated cell of claim 62, wherein the N-acetylgalactosaminyl transferase is uridine 5'-diphosphate-N-acetylgalactosamine:2'-fucosylgalactoside- $\alpha$ -3-N-acetylgalactosaminyl transferase.
67. (currently amended) The isolated cell of claim 62, wherein the glycosyltransferase is a glucuronyltransferase.
68. (currently amended) The isolated cell of claim 62, wherein the glycosyltransferase is a sialyltransferase.
69. (currently amended) The isolated cell of claim 62, wherein the glycosyltransferase is a mannosyltransferase.
70. (currently amended) The isolated cell of claim 62, wherein the fucosyltransferase is selected from the group consisting of  $\alpha$ 1,3- fucosyltransferase,  $\alpha$ 1,2- fucosyltransferase, and  $\alpha$ 1,3/4- fucosyltransferase.
- 71-76. (canceled)